

**14th International Conference on
Condensed Matter Nuclear Science**

**14th International Conference on
Cold Fusion**

**Exciting New Science
Potential Clean Energy**

Agenda and Abstracts

**Hyatt Regency on Capitol Hill
Washington DC
10-15 August 2008**

	Sunday 10 Aug	Monday 11 Aug	Tuesday 12 Aug	Wednesday 13 Aug	Thursday 14 Aug	Friday 15 Aug
800						
		Keynote Introduction Preview	Gas & Fast Loading	Transmutations	Theory	Experimental Reports
1000		Break	Break			
		Heat Results	Honoring Arata	Country Histories	Beam Probe Experiments	Summary & Two Panels
1200			Honoring Szpak			
		Lunch		Box Lunch	Lunch	
200		Measuring Heat	Particle Measurements		Theory	
		Break		Excursion	Break	Transmutation Workshop
400	Initial Registration	Materials	Challenges		Materials and Optical	
		Posters			Posters	
600			ISCMNS Meeting			
800	Reception			Banquet		
1000						

14th International Conference on Condensed Matter Nuclear Science
14th International Conference of Cold Fusion
 Hyatt Regency on Capitol Hill
 Washington DC

Sunday 10 August 2008

1500-1900	Registration	Ballroom Foyer (Lower Level)
1900-2100	Reception	Columbia Ballroom (Lower Level)

Monday 11 August 2008

0730-0830	Daily: Registration in the Ballroom Foyer (Lower Level) and Continental Breakfast in the Hall of Battles (Lower Level)	
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Opening Session
Ballroom (Lower Level)

			Number
0830-1000	Llewellyn King	Keynote Address	1
	D. J. Nagel	Problems, Progress and Prospects	2
	M. E. Melich	Conference Preview	3

1000-1030	Morning Break in the Hall of Battles (Lower Level)	
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Heat Results
 Chairmen: M. Srinivasan and Y. Kim

1030-1100	D. Cravens and D. Letts	The Enabling Criteria of Electrochemical Heat: Beyond Reasonable Doubt	4
1100-1130	M. Swartz	Excess Power Gain and Tardive Thermal Power Generation using High Impedance and Co-depositional Phusor™ Type LANR Devices	5
1130-1200	S. Lesin, <i>et al.</i>	Ultrasonically-Excited Electrolysis Experiments at Energetics Technologies	6

1200-1330	Lunch	Congressional Room (Lobby Level)
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Measuring Heat
 Moderator: B. R. Breed

1330-1500	J. Dufour, <i>et al.</i>	Ice Calorimetry	7
	M. Eisner	Heat Flow Calorimetry	8
	M. C. H. McKubre	Mass Flow Calorimetry	9
	M. H. Miles and M. Fleischmann	Isoperibolic Calorimetry	10
	E. Storms	Seebeck Calorimetry	11

1500-1530	Afternoon Break in the Hall of Battles (Lower Level)		
Materials			
Chairmen: A. Takahashi and S. Chubb			
1530-1600	V. Violante, <i>et al.</i>	On the Correlation of PdD Alloy Material Properties with the Occurrence of Excess Power	12
1600-1620	I. Parchamazad, <i>et al.</i>	Investigations of Nanoparticle Palladium/Deuterium Systems in Zeolites	13
1620-1640	J. Marwan	Study of the Nanostructured Palladium Hydride System	14
1640-1700	T. Nohmi, <i>et al.</i>	Basic research on condensed matter nuclear reaction using Pd powders charged with high density deuterium	15
Poster Session and Book Sales			
1700-1800	Posters	Lexington and Concord Rooms	
1700-1800	Book Sales	Reception Desk in the Ballroom Foyer (Lower Level)	
Tuesday 12 August 2008			
Gas and Fast Loading			
Chairmen: K. P. Sinha and D. Cravens			
0830-0900	J.-P. Biberian	Cold Fusion by Gas Loading: A review	16
0900-0930	F. Celani, <i>et al.</i>	Deuteron electromigration in thin Pd wires coated with nano-particles: evidence for ultra-fast Deuterium loading and anomalous, large thermal effects	17
0930-1000	Morning Break in the Hall of Battles (Lower Level)		
Honoring Yoshiaki Arata			
Organizer: T. A. Chubb			
1000-1030	T. A. Chubb	In Honor of Yoshiaki Arata	18
1030-1100	Y. Arata and Y.-C. Zhang	"Solid Fusion" Reactor with Zero Input Energy	19
Honoring Stanislaus Szpak			
Organizer: F. E. Gordon			
1100-1200	S. Szpak, P. Mosier-Boss, F. Gordon, M. Miles and L. Forsley	LENR Research Using Co-Deposition	20
1200-1330	Lunch	Congressional Room (Lobby Level)	

Particle Measurements
Chairmen: X. Z. Li and R. E. Smith

1330-1400	A. G. Lipson, <i>et al.</i>	Charged Particle Emission During Electron Beam Excitation of Deuterium Subsystem in the Pd and Ti-Deuteride Targets	21
1400-1430	E. Storms and B. Scanlan	Detection of Radiation Emitted from LENR	22
1430-1500	R. Oriani	Reproducible Evidence for the Generation of Nuclear Particles During Electrolysis	23
1500-1530	Afternoon Break in the Hall of Battles (Lower Level)		

Challenges
Chairmen: Y. Iwamura and E. Storms

1530-1600	M.C.H. McKubre, <i>et al.</i>	The Importance of Replication	24
1600-1630	Y. Toriyabe and J. Kasagi	Development of New Detector System for Charged Particle Emission	25
1630-1700	D. Kidwell	Considerations for Ultra-Trace Analysis of Metals in a Palladium Matrix	26

Poster Session and Book Sales

1700-1800	Posters	Lexington and Concord Rooms
1700-1800	Book Sales	Reception Desk in the Ballroom Foyer (Lower Level)
1800-2000	Annual General Meeting of the ISCMNS in the Ballroom (Lower Level)	

Wednesday 13 August 2008

Transmutations
Chairmen: A. Kornilova and V. Vysotskii

0830-0900	Y. Iwamura, <i>et al.</i>	Transmutation Reactions Induced by D ₂ Gas Permeation through Pd Complexes (Pd/CaO/Pd)	27
0900-0920	T. Yamaguchi, <i>et al.</i>	Investigation of Nuclear Transmutation Using Multilayered CaO/X/Pd Samples Under Deuterium Permeation	28
0920-0940	T. Hioki, <i>et al.</i>	Influence of Deuterium Gas Permeation on Surface Elemental Change of Ion-Implanted Pd	29
0940-1000	J. Dash and Q. Wang	Elemental Mapping on the Surfaces of Palladium Cathodes after Electrolysis	30
1000-1030	Morning Break in the Hall of Battles (Lower Level)		

Country Histories
Chairmen: W. Collis and T. Passell

1030-1045	X. Z. Li	China - Condensed Matter Nuclear Science Research in China	31
1045-1100	J.-P. Biberian and J. Dufour	France - Cold Fusion in France	32
1100-1115	M. Srinivasan	India - History of Cold Fusion Research in India	33
1115-1130	F. Scaramuzzi	Italy - The History of Cold Fusion in Italy 1989-2008	34
1130-1145	J. Kasagi and Y. Iwamura	Japan - Country History on Japanese Work on Cold Fusion: Towards further development of Condensed Matter Nuclear Science	35
1145-1200	I. Chernov and A. Lipson	Russia - Status of Research on Low Energy Nuclear Reactions in Non-Equilibrium Condensed Matter in Russia Based on Publications in Reviewed Journals	36
	Yu. Bazhutov	Role of Russian Scientists in CMNS – Conferences 1991-2007	37

1230	Depart for Tour with Box Lunches on the Bus		
About 1330	Arrive at the Udvar-Hazy Center of the Smithsonian Air and Space Museum		
1630	Depart from the Udvar-Hazy Center of the Smithsonian Air and Space Museum		
About 1730	Arrive at the Hyatt Regency Hotel on Capitol Hill		

1900	Conference Banquet and Award Ceremony in the Regency Ballroom (Lower Level)		
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Thursday 14 August 2008

Theory
Chairmen: V. Violante and A. Imam

0830-0900	P. L. Hagelstein, et al.	Physical Mechanisms in Theories of Condensed Matter Nuclear Science	38
0900-0915	X. Z. Li, <i>et al.</i>	Exploring a Self-Sustaining Heater without Contamination	39
0915-0930	Y. E. Kim	Theory of Low-Energy Deuterium Fusion in Nano-Scale Metal Particles	40
0930-0945	S. R. Chubb	Resonant Electromagnetic Dynamics Explains the Fleischmann-Pons Effect	41
0945-1000	M. Swartz	Optimal Operating Points in Active, Loaded Palladium Linked to Three Distinct Physical Regions	42

1000-1030	Morning Break in the Hall of Battles (Lower Level)		
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Beam Probe Experiments
Chairmen: I. Savvatimova and J. Dash

1030-1100	J. Kasagi	Screening Potential for Nuclear Reactions in Condensed Matter	43
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1100-1130	A. Huke, <i>et al.</i>	Accelerator measurements of the enhanced electron screening effect in d+d reactions with UHV conditions	44
1130-1200	K. Czerski, <i>et al.</i>	The D-D threshold resonance and enhanced electron screening	45
1200-1330	Lunch	Congressional Room (Lobby Level)	

Theory
Chairmen: J. Dufour and M. H. Miles

1330-1345	K. P. Sinha and A. Meulenberg	A theoretical model for enhanced fusion reaction in metal deuterides in the solid matrix	46
1345-1400	A. Takahashi	Dynamic Mechanism of TSC Condensation Motion	47
1400-1415	R. W. Bass and M. Swartz	Empirical System Identification (ESID) and Optimal Control of Lattice-Assisted Nuclear Reaction (LANR) Devices	48
1415-1430	A. Marmigi, <i>et al.</i>	The SHEEN Project: Theoretical Model on the hydrogen dynamics in CMNS experiments	49
1430-1445	P. L. Hagelstein and I. U. Chaudhary	Excitation transfer and energy exchange processes for modeling the Fleischmann-Pons excess heat effect	50
1445-1500	D. Alexandrov	Pairing Interactions between Positive Nuclei Incorporated in Solid Structures	51
1500-1530	Afternoon Break in the Hall of Battles (Lower Level)		

Materials and Optical Measurements
Chairmen: T. Zilov and M. B. Miller

1530-1600	E. Castagna, <i>et al.</i>	Metallurgical characterization of Pd electrodes employed in calorimetric experiments under electrochemical deuterium loading	52
1600-1620	F. Sarto, <i>et al.</i>	Electrode Surface Morphology Characterization by Atomic Force Microscopy	53
1620-1640	K. Tsuchiya, <i>et al.</i>	Observation of Optical Phonon in Hydrogen Storage Pd Using Raman Spectroscopy	54
1640-1700	M. Swartz, <i>et al.</i>	Non-Thermal Near-IR Emission Linked with Excess Power Gain in High Impedance and Co-deposition Phusor™ Type LANR Devices	55

Poster Session and Book Sales

1700-1800	Posters	Lexington and Concord Rooms	
1700-1800	Book Sales	Reception Desk in the Ballroom Foyer (Lower Level)	

Friday 15 August 2008

Experimental Reports
Chairmen: J. Kasagi and D. Letts

0830-0845	A. Kornilova, <i>et al.</i>	Investigation of Radiation Effects at Bubble Cavitation in Running Liquid	56
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0845-0900	R. Stringham	Bubble Driven Fusion	57
0900-0915	J. Tian, <i>et al.</i>	Excess Heat Triggering by Nd:NYW Laser in a D/Pd Gas-Loading System	58
0915-0930	T. Mizuno, <i>et al.</i>	Heat Generation during Hydrogenation of Carbon (Phenanthrene)	59
0930-0945	A. B. Karabut and E. A. Karabut	Electric and Heat Measurements in High Voltage Electrolysis Cell Experiments	60
0945-1000	L. Forsley and P. Mosier-Boss	Quantitative Spatial Analysis of Pd/D Co-Deposited Induced Nuclear Particle Tracks	61
1000-1030	Morning Break in the Hall of Battles (Lower Level)		
Conference Summary and Panel Discussions			
Chairmen: J.-P. Biberian and M. C. H. McKubre			
1030-1100	Conference Summary	M. E. Melich and T. Passell	
1100-1130	Panel	Experimental Design	
1130-1200	Panel	Realizing the Promise	
1200-1330	Lunch	Regency Ballroom (Lower Level)	
Workshop on Transmutations in the Valley Forge Room (Lower Level) Organized and Chaired by George Miley			
1330-1350	G. H. Miley	Introduction and Brief Overview of the Field	
1350-1430		Short Presentations & Discussion of Prior Experiments	
1430-1445	Afternoon Break in the Hall of Battles (Lower Level)		
1445-1525		Short Presentations & Discussion of Theory	
1525-1605	Panel	Discussion of Key Issues for Experiments and Theory, and Future Directions	
1605-1645	Panel	Discussion of Scientific Implications and Potential Commercial Applications	
1645-1700		Discussion and Summary Remarks.	
Posters: Monday 11 August 2008 1700-1800 Lexington & Concord Rooms			
B. R. Breed		Can Established Physical Principles Explain Solid-State Fusion?	62
D. Cravens		Remote Demonstration of Heat from Pd Black at Elevated Temperature on Exposure to D ₂	63
J. Dufour, <i>et al.</i>		An experimental device, built to test the hypothesis of "pico-chemistry" (chemistry at picometer distance) – Implications in the LENR field	64

A. B. Karabut and E. A. Karabut	Research into Energy Spectrum of X-Ray Emission from Solid Cathode Medium During the High Current Glow Discharge Operation and after the Glow Discharge Current Switch Off	65
L. Kowalski	Nuclear or not nuclear, how to decide?	66
D. Letts and P. Hagelstein	Stimulation of Optical Phonons in Deuterated Palladium: A Live Virtual Demonstration	67
S. R. Little, <i>et al.</i>	A High Accuracy Calorimeter for Cold Fusion Studies	68
M. H. Miles, <i>et al.</i>	Review of Fleischmann-Pons Effects Using Palladium-Boron Cathodes	69
M. B. Miller, <i>et al.</i>	Phase Properties of Sonoluminescence and a Possibility of Self-Reproduced Nuclear Fusion during Cavitation	70
I. Savvatimova, <i>et al.</i>	Enhancement of the Processes of Nuclear Decay	71
M. Swartz	Electrical Breakeven from LANR Phusor Device Systems: Relative Limitations of Thermal Loss in Feedback Loop	72
W. T. Williams and J. Dash	Auger and Mass Spectroscopy of anomalous Ag concentrations on electrolyzed Pd	73
W.S. Zhang, <i>et al.</i>	Construction of a Seebeck Envelope Calorimeter and Reproducibility of Excess Heat	74

Posters: Tuesday 12 August 2008 1700-1800 Lexington & Concord Rooms

V. B. Belyaev and M. B. Miller	Induced Molecular-Nuclear Transitions "Molecular-Nuclear Laser"?	75
D. Chung, <i>et al.</i>	Gas Generation in Glow Discharge Experiment	76
F. David and J. Giles	Self-Polarisation of Fusion Diodes: From Excess Energy to Energy	77
C. Fou	Investigation of Deuteron-Deuteron Cold Fusion in a Cavity	78
T. Grimshaw	Open Source Science Applied to CMNS Research: A Paradigm for Enhancing Cold Fusion Prospects and the Public Interest	79
T. Grimshaw	Public Interest Arguments for Cold Fusion Policy Change: Opportunities for the CMNS Research Community	80
D. Letts and P. L. Hagelstein	Stimulation of Optical Phonons in Deuterated Palladium	81
E. Lewis	Survey of Recent Microscopic Ball Lightning Evidence in Transmutation Experiments	82
E. Lewis	What Does the Eighty Year Periodicity of Paradigm Shifts in the History of Physics Suggest For the Development of the Cold Fusion Field?	83
Y. Ou and F. Liu	Combustible Substances Showing Organic Properties from Water	84
M. Swartz and G. Verner	The Phusor™ LANR Cathode is a Metamaterial which Creates Deuteron Flux for Excess Power Gain	85

Posters: Thursday 14 August 2008 1700-1800 Lexington & Concord Rooms

V. Adamenko and V. Vysotskii	The Mechanism of Creation of Magnetic Monopoles in Strong Magnetic Field of Laboratory System	86
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S. R. Chubb	Roles of Finite Size and Interfaces in Nanometer-scale PdD and Composite Compounds Containing Pd, D, and ZrO ₂ in the Pons-Fleischmann Effect	87
T. A. Chubb	Interface Model of Cold Fusion	88
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I. Goryachev	Work Program for Developing Technologies in Environmentally Safe Alternative Energy Engineering	90
I. Goryachev and V. Kuznetsov	Prospective Way to Solve the Problem of Radioactive Waste	91
H. Kozima	Complexity in the Cold Fusion Phenomenon	92
H. Kozima and Hiroshi Date	Nuclear Transmutations in Polyethylene (XLPE) Films and Water Tree Generation in Them	93
R. W. Kühne	Predictions of the Extended Micro Hot Fusion Scenario	94
A. Lakshmanan	Controlled thermonuclear fusion of hydrogen nuclei during sodium metal dissolution in aqueous Epsom solution at a critical salt concentration through cavitation induced metastable nanocrystal nucleation	95
G. H. Miley and H. Hora	Enhanced Cluster Reactions in LENR	96
I. Savvatimova and J. Dash	Transmutation of Elements during Conditions of Low-Energy Glow Discharge Exposure and the Associated Processes	97

Transmutation Reactions Induced By D₂ Gas Permeation through Pd Complexes (Pd/CaO/Pd)

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² *Japan Synchrotron Radiation Research Institute (JASRI)*

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We have been studying low energy nuclear transmutation reactions induced by D₂ gas permeation through Pd multilayer complexes. Transmutation reactions of Cs into Pr, Ba into Sm and Sr into Mo were observed. Especially, transmutation of Cs into Pr has been confirmed by “in-situ” measurement using x-ray fluorescence spectrometry (XRF) at SPring-8. Up to now, we reported that transmutation reactions seem to occur at localized spot near surface within 100nm under our experimental conditions.

In this conference, we present recent progress of our research. Identification for an unidentified peak that appears during transmutation experiments of Cs into Pr at SPring-8 by changing x-ray excitation energy will be presented. Ti was detected by the method and La was also detected in some cases during D₂ permeation experiments. Discussion on the origin of Ti and La will be presented.